DOCUMENT RESUME

ED 230 230 JC 830 227

AUTHOR Harris, Jack
TITLE A Synopsis of Keeping Occupational Education Current: Formation and Evaluation--DACUM.
PUB DATE 4 Nov 82
NOTE 14p.; Paper presented at the Great Lakes Regional Conference of the American Technical Education Association (Toledo, OH, November 4, 1982).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Advisory Committees; *Career Education; *College Curriculum; *Curriculum Design; *Curriculum Development; *Job Analysis; Job Performance; Postsecondary Education; School Business Relationship
IDENTIFIERS *DACUM Process

ABSTRACT

The DACUM (Developing a Curriculum) process is described in this paper as a method for designing a curriculum that is responsive to the needs of business, industry, health, and public service fields. First, a variety of methods of curriculum development are contrasted with the DACUM process, which involves the construction of a single-sheet performance profile for an occupational field, which is subdivided into individual performances needed to enable an individual to function competently in that general area. After a brief history of the DACUM process, the importance and tasks of a panel of experts and a DACUM facilitator are discussed. This section indicates that the panel, comprised of 7 to 12 experts from the occupational field under analysis, specifies the day-to-day performances needed for career success, and that the DACUM facilitator has responsibility for clarifying panel contributions, balancing group participation, and setting the group pace. Next, the seven-stage process of developing a DACUM chart is outlined. This process includes the orientation of the panel, definition of the occupation, listing of areas of competence, creation of performance statements, review, and revision. Then, the purposes for which DACUM charts can be used are specified (e.g., student recruitment, evaluation of credit, and curriculum review). Finally, the paper discusses the benefits for colleges of using the DACUM process. (HB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED230230

A Synopsis of

Keeping Occupational Education Current, Formation and Evaluation - DACUM

Presented November 4, 1982

at

The American Technical Education Association
Great Lakes Regional Conference
Toledo, Ohio

by

Jack Harris
Director, Staff & Program Development
Stark Technical College
Canton, Ohio

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. Harris

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

VC 830 227

It is essential to develop and maintain a curriculum that is responsive to the needs of today's business, industry, health and public service areas. Such things as changing management theory, changing methodologies, and changing technology in existing areas as well as in new areas force us to continually update and refine our curriculums. There is a shift from a product to service economy. There are changes in existing areas, such as computers, allied health and word processing, and new technologies such as robotics, laser and process control are coming in to being.

Curriculum building and updating can be anything from simple to complex. A wide variety of methods exist. A few of them are as follows:

Inherited: Often there is no choice in developing the curriculum that is taught. An individual is hired into a department and the curriculum already exists. It does not need to be developed or changed, in fact, it is not to be bothered at all.

Cloned: Some curriculums are developed from bits of other curriculums. Someone will gather six or seven college catalogs from other institutions, survey them - pulling out course titles and descriptions which look appropriate - compile them together, and present the results as a new curriculum for their institution.

Imposed: We all have guidelines from our states which mandated certain percentages of technical courses, support courses and general studies courses. Different technologies have different accrediting agencies which mandate certain courses and contents or details for that program to be accreditated. We have institu-

tional and regional demands or funding demands from outside sources which create strictures that we have to work under.

Interviews: Sometimes an individual will interview key practitioners and managers within an occupational field. They tally information that has been deemed as necessary then they tally the information elicited in the interviews to identify background knowledge and entry level skills that are needed to be successful within the occupation.

Delphi Method: An initial list of tasks or skills needed in an occupational field is compiled, as large as possible, from as many sources as possible. These are then mailed out to a group of practitioners which survey the list and identify and prioritize key entry level and or advancement level abilities. Returns from all these individuals are tallied into a new prioritized list which is sent out a second time. The same process is then done a third time, creating a final prioritized list of needed skills.

DACUM: A panel of occupational experts are brought to a college campus and a DACUM facilitator works with the panel for two or three days to create a DACUM chart. They brainstorm and create a list of general and specific performance statements about their occupation. These are refined and sequenced into a final chart.

There are pros and cons for each of these methods. Rather than reviewing all of them in detail, only DACUM will be discussed as a process

for curriculum formation and evaluation. DACUM is an acronym for Developing a Curriculum. It is essentially a single sheet performance profile for an occupational field. General areas of competence (GAC's) are identified and listed down the left hand side of the profile and then each of these areas is subdivided into those individual behaviors or performances that are needed to enable an individual to competently perform within that general area. A DACUM chart is graphic in nature and is an occupational analysis that can be used for curriculum construction.

History

In 1964 in the United States, the Economic Opportunity Act established the Job Corps. It's purpose was to prepare young, disadvantaged adults for responsible citizenship and employment. To do this, they established a job analysis technique in which they listed the attitudes and skills needed to be successful in an occupational field. This then became both a training tool and an achievement record for the individual's work training in the Job Corps.

In 1965, the Canadian Federal Government with several Provinces began a limited number of action research projects designed to study total training needs. The purpose was to upgrade vocational training and economic achievement for disadvantaged adults and to develop new training techniques. In 1967, six Provinces began this process by establishing New Start Corporations, to be chartered for five years. These resulted in many different training systems.

During the development phases, an official from the Department of

Manpower in Canada visited the Job Corps in the United States as part of their planning activities. He was impressed with the analysis approach being used by the Job Corp in Clinton, Iowa. As a result, Canada contracted with the General Learning Corporation of New York (a subsidy of General Electric) to develop this model for Canadian use. It was presented in Vancouver to New Start representatives in the late '60's. R. E. Adams, although not happy with the generalities of the competency statements, was excited with the concept of a graphic form. He returned to Nova Scotia and started refining the process, which was titled DACUM. Since that time, DACUM has become a very popular tool in education as a curriculum base, and in business and industry as both a job description and an evaluation or appraisal instrument.

To have a valid DACUM chart, there are two critical needs. The first is to assemble a panel of experts in that field, and second, to utilize a trained DACUM Facilitator. Without either of these, the validity of the final chart is questionable at best.

Panel

The DACUM panel consists of seven to twelve practitioners from the occupational field under analysis. By practitioners, we mean these individuals must currently be doing the job under analysis. They should have many years of experience behind them and be identified by others in their field as the experts. Up to 20% of the panel can be supervisors of the job under analysis, if the supervisors at one time did the job themselves and moved up to their current positions from there. The key is to use people that are doing the job, rather than people that observe it from some other position.

Many factors should be reviewed when selecting panel members. Consideration must be given for representation of both large and small companies that are involved in that occupation. Each may have slightly different needs or concerns for an individual performing this job. Product and or service variables also need to be considered when selecting panel members. Geographic representation is another important factor. If the college is surveying a local group of employers who are hiring their graduates, then the panel members should heavily or completely represent the local businesses and industries. If the graduates are serving a regional or national market, then the panel needs to represent the regional or national areas where graduates are employed. Specialization within a field is also important.

Any subfields and narrow areas that may become an important part of the curriculum, should have representation on that panel. Finally, panel members should be selected for their personal qualities. There is a need for individuals who have good verbal abilities and are willing to communicate. They need to be confident and freely present their ideas to the group. They also need to be willing to be part of the group process - interacting in a give and take environment with others. The final panel represents the best people available in that occupational field.

The role of the panel members will be to share their knowledge of the day-by-day performances needed to be successful in that occupation. As practitioners, they will be discussing what they themselves have been involved in as recently as yesterday. They do this by discussing various aspects of their jobs among themselves and with the Facilitator. As ideas are clarified and a concensus is reached, the performance statements

are added to the chart.

Facilitator

A DACUM facilitator acts as a funnel for clarifying performance statements, seeking agreement among the panel members and posting the final product on the wall where the chart is being developed. He must have a good understanding of DACUM and have good group interaction skills. Both are needed to be successful in developing a chart.

The DACUM process is not a vague, unstructured affair. It has certain parameters and follows a specific sequence. The DACUM facilitator needs to understand the history, the structure and the flexibility of DACUM before leading a group.

Facilitating group interaction demands a multitude of skills. The facilitator needs to demonstrate active listening skills, conflict management skills and have an ability to clarify information. He will be responsible for setting and maintaining the group pace, for balancing group participation, for clarifying panel contributions and for probing for more details. The motivation for the panel to accomplish its task comes from the facilitator. He must lead and encourage the panel, and control the DACUM process but not direct or control the panel.

Process

The Facilitator and panel members are housed in an appropriate room for two to three days to construct the DACUM Chart. The process of formulating the chart goes through seven stages.

Stage I: At the beginning of the first day, the panel members should be greeted by whoever contacted them and welcomed by any appropriate officials of the institution. The Facilitator is introduced and begins the orientation. DACUM is defined, a brief history is given and an explanation of what will be taking place the next few days is given to the panel members.

Stage II: The Facilitator works with the panel members to define the occupation. They discuss it, set the parameters to the area they are going to be working with and decide where the responsibilities for this job begin and end. This is then summarized in a brief one sentence definition, usually put on a flip chart and posted.

Stage III: Using the definition as a spring board, the Facilitator will lead the panel members in developing and listing the general areas of competence. These are placed on the wall as a column of large cards on the left. Normally, between eight and twelve general areas of competence are listed.

Stage IV: Next, the bands of performance statements are developed and listed across from each of the general areas of competence. This is done one band at a time in no particular order. Each statement must begin with a verb and be measurable.

Stage V: After all the bands are finished, each area of competence and statement is reviewed and refined. The bands and general areas of competence are sequenced.

Stage VI: The original definition or description of the occupational field is reviewed and refined.

Stage VII: If time allows, the panel can be used to identify entry level performances. The panel can also rate the chart statements according to frequency, difficulty and or importance. This stage also includes any closure or wrap up activities.

There are many results for which a DACUM chart can be used. It has been produced by experts in the field and is practical, rather than theoretical.

1) It can be used for developing a curriculum. Specific performances that are needed to be successful within an occupational field have been identified. Educators can take these performances, write objectives, create learning activities and evaluate students' success in achieving them.

2) A DACUM chart can be used for academic advising and counseling. Incoming students can be given a copy of the chart and get a whole picture of what is needed to be successful in that occupation. Advisors or counselors can walk through the chart with them, explaining the purpose and importance of each performance statement. The student then enters into an occupational field or technology with a better understanding of what is expected of him/her in the learning process.

3) The DACUM chart is an excellent recruiting tool. In various college fliers, at High School visitations and other recruiting kinds of activities, charts can be presented showing that the college has thought through what is needed to be successful

in an occupation and has included it within the curriculum. Students will not be met with surprises, because the details of what they will be learning have been spelled out in the chart in advance.

4) A DACUM chart can be used for granting credit for experience. Because specific performances are identified it is easier to assess incoming students and their experience against the occupation pursued.

5) Evaluating transfer credit is easier with a DACUM chart. Again, because the specific performances have been identified, incoming credit can be assessed and equated to various performance statements. The decision can then be made whether credit should or should not be granted.

6) A DACUM chart serves as both a formative and summative evaluation. As a student is working through a program, they will be able to see which performances they have already accomplished and which remain. They will know at the end of a program whether or not they have accomplished all the performances stated on the chart and know how successfully they have achieved completion of the entire program. Some institutions give a copy of the chart as part of the final achievement record or diploma.

7) Students can use the chart when interviewing for jobs. They can show the chart to their perspective employer and show which performances have been included in their degree program. The

employer, rather than just knowing the student's grade point average, will know what has been covered in that occupation and understand better what the student has been exposed to and should be capable of doing.

8) Advisory committees can assess the college curriculum, using the DACUM chart. They can look at specific performance statements and let the college know whether or not these continue to fill a current need in that occupation or have changed. They can easily help the college update by letting them know of new performances that are needed since the DACUM gives them the specifics rather than just a general description of the technology.

9) A DACUM chart can be used by the college for reviewing its own curriculum. The various components needed to make up the entire curriculum have been identified and presented and the college can evaluate whether or not those performances are contained within their curriculum and make necessary changes.

10) Faculty can be evaluated by a DACUM chart. Because specific performances for the occupational field have been identified, faculty members teaching in that technology can be assessed relative to their knowledge and/or ability to teach them to the students.

11) A DACUM chart can be used for evaluating the institution. The specific performances identified will let the institution know what kinds of equipment are needed to implement such a program,

what space requirements will be for various activities, and what kinds of staff members are needed to teach the specialized skills or processes.

There are many benefits that result from developing and utilizing a DACUM chart for an occupational analysis. One college has identified four specific benefits for that college. First, they felt that their advisory committees were stronger, because some members of the advisory committee had participated in the DACUM chart. There was a stronger sense of ownership of the college programs and a willingness to donate time and energy as required to implement the chart within the curriculum of the college. The second benefit has been that industry feels it is supporting specific skill development. Because of this feeling of support, they are more willing to donate funds and equipment to the college for fulfilling the educational goals. A third benefit is that of articulation. It was easier to avoid duplication effort on the part of students who could move rapidly to more advanced skills. It was also easier to assess prior learning or experience of students coming in with work related experience, educational experience or military experience, which was similar to the technology in which they were enrolled. The fourth benefit was that some industries are finding the DACUM charts to be an excellent tool for on-the-job evaluation of the worker. This means that students moving into these industries that have been trained at the college will be immediately on a competitive basis with other employees, since their training came from curriculum based on the same chart. The industry uses the profile as a strong indication of their trust and support for the DACUM process.

Conclusion

The conclusion is that DACUM is a successful method for beginning curriculum construction. It is fast because a few weeks of preparation can set up the two or three day brainstorming session which yields the final chart. It is realistic, because the chart is built by professionals from that occupational field. It is practical because the items are performance statements written in measurable terms that the faculty can work with. In addition, it can serve many other purposes and has many benefits for the institution. DACUM (Developing a Curriculum) is a good educational tool.

ERIC Clearinghouse for Junior Colleges
8118 Math-Sciences Building
University of California
Los Angeles, California 90024

JUL 1 1983